

CHAPTER 1

Social research

Meaning and definition

Society is an organized group of persons associated together with shared objective, norms and values pertain to the society. People have social life and social process.

Research is systematic and organized effort to investigate a specific problem that needs a solution. It contributes to the general body of knowledge. It also corrects human knowledge. Social research now can be defined as the systematic and objective analysis and recording of controlled observations that may lead to the development of generalization, principles or theories resulting in prediction and possibly ultimate control of events in society. It attempts to answer or solve social problems.

According to C.A. Moser : *“Social research is a systematized investigation to gain new knowledge about social phenomenon and problems.”*

According to P.V. Young: *“Social research is a scientific undertaking which by means of logical methods, aim to discover new facts or old facts and to analyze their sequences, interrelationships, casual explanations and natural laws which govern them.”*

Characteristics of social research

- It is directed towards the solution of problems. The ultimate goal is to discover cause-and-effect relationship between social problems.
- It emphasis the development of generalizations, principles or theories that will be helpful in predicting future occurrences.
- It is based upon observable experience or empirical evidence.
- It demands accurate observations and description. Researchers may choose from a variety or non-qualitative description of their observations.
- It involves gathering new data from primary sources or using existence data for new purpose.
- Although social research activities may at time be somewhat random and unsystematic, it is more often characterized by carefully designed procedure that applies rigorous analysis.
- It requires expertise. The researcher knows what is already known about the problem and how others have investigated.
- It strives to the objective and logical applying every possible test to validate the procedure employed, data collected and conclusion reached.
- It involves the guests for answer to unsolved problems.
- It is characterized by patient and unhurried activity. Researcher must expect disappointment and discouragement as they pursue the answer to difficult question.

- It is carefully recorded and reported. Each important term is defined, limiting factors are recognized, procedures are described in detail, reference are carefully documented, results are objectively recorded and conclusions are presented with scholarly caution and restraint.
- It is interdisciplinary in nature
- It sometimes requires courage.

Objectives of social research

- ❖ To facilitate the understanding of human behavior.
- ❖ To acquire knowledge about social phenomena, events, issue, problems etc.
- ❖ To identify functional relationship existing in the social phenomena.
- ❖ To find out the natural laws that regulates or directs social phenomena.
- ❖ To standardize the society concept, e.g. culture, struggle, generation gap, social distance etc.
- ❖ To formulate solution to social problems.
- ❖ To maintain social organization, remove social tension, misconception, etc
- ❖ To develop social revival plan.

Phases of social research (S.R.)

Phases of social research consist of a series of steps necessary to efficiently carry out research on any social phenomena. These actions are closely related. They can be overlapped.

Phases of S.R. basically refer to scientific research process. There are nine phases of social research.

❖ *Sensing or realizing problem:* -

The first step in SR process is observing the situation and sensing problem. New problems keep on emerging in the social environment. One should sense these development origins in the environment. At this stage, one may not know exactly what is happening but one can definitely sense that things are not going smoothly as they should be.

❖ *Problem identification:*

Once one become aware of what is happening in the environment, he/she would then focus on the problem. The researcher singles out the problem for the study, i.e. what exactly are the problems in the situation. It is thus, problem-defining stage. Without a focused definition of problem, data tends to be irrelevant, expensive and confusing. Research problem should be specific.

❖ *Theoretical framework:*

Once the problem is identified, the researcher carefully studies the earlier studies, if any which are similar to the study in hand. It helps to integrate information locally so that reason for the problem can be conceptualized. This helps to develop theoretical framework. This step essentially involves a review of related literature. It familiarizes the researcher with what is already known and what is still unknown and untested.

❖ **Hypothesis formulation:**

After developing theoretical framework, the researcher develops hypothesis. It is drawn from the theoretical framework. A hypothesis is a tentative answer to question. It is an educated guess. It is generally based upon prior research. It is subjected to the process of verification or disconfirmation. Hypothesis is conjectured relationship between two or more variables expressed in the form of testable statements.

❖ **Research design:**

It is the plan, structure and strategy for conducting research. It describes the general framework for collecting, analyzing and evaluating data. It helps to obtain answer to research questions and to control variance. It enables the researcher to answer research questions to validity, objectively, accurately and economically as possible. Design should be carefully worked out to yield dependable and valid answer to the research questions.

❖ **Collection of data:**

At this stage, the researcher has to collect data as expected. Data can be obtained from primary source or secondary source. Questionnaire, interview, observation are major instruments to collect data. This step is also called fieldwork because researcher has to visit field for administering the research instruments to collect data.

❖ **Data analysis:**

It is statistical analysis that has been collected, edited, coded and tabulated. In other words, data analysis means the categorizing, ordering, manipulating and summarizing of data to obtain answer to research's question. Its purpose is to reduce data to intelligible and interpretable form so that relations of research problem can be studied and tested. Different statistical techniques are used at this stage.

❖ **Interpretation and generalization:**

Interpretation takes the result of data analysis, makes inference pertinent to the research relation studied and draws conclusion about the relations. Generalization is the act of giving general form to these conclusions.

❖ **Report preparation:**

Finally the researcher has to prepare the report of his/her research. Its objective is to tell readers the problems investigated, the method used to solve problems, result of the investigation and the conclusion from the result.

Types of Social Research: -

📊 **Basic research:**

It is also called fundamental research. It is undertaken to improve our understanding of certain problems that commonly occur in social setting and how to solve them. It undertaken for sole purpose of adding to our knowledge that is fundamental and generalizable. This type of research may have no immediate or planned application. But it may later used in further research of

an applied nature. Its objective is therefore, is not apply the findings to solve immediate problems at hand, rather to understand more about certain phenomena or problem that occur in social life or settings, and how they can be solved. It contributes to theory formation. This research work of professors, scholars and other researchers devoted to generate new knowledge in particular area of their interest can be called fundamental research. Basic research is essentially positive. It explains the phenomena as they are and as not they should be. It may verify or establish new one. It is an intellectual exercise.

 Applied research:

It is also called action or decisional research. It is undertaken in response to a social problem, which requires a solution. Its major purpose is to answer practical and useful question. The results are practically applied to solve immediate problems. It involves normative prescription. As applied research id concerned with knowledge that has immediate application. It is also called decisional research.

Differences between Basic and Applied research

Differences	Basic research	Applied research
Purpose	Its purpose is to add human knowledge.	Its purpose is to answer practical question
Nature	Knowledge or	

Time scale	findings is fundamental and generalizable.	It is applied and more specific (practical).
Outcomes	(Theoretical). Flexible time scale. It results in universal principles relating to the process and its relationship to outcomes.	Tight time scale. It results in solution to problem.
Ability to solve problem	It doesn't solve immediate problem in hand.	It has immediate application.

Chapter 2

FUNDAMENTAL CONCEPT OF RESEARCH

Hypothesis

Meaning and Definition

The word hypothesis is a compound of two words 'hypo' and 'thesis' where 'hypo' means under and 'thesis' means reason or rational view. Thus, hypothesis is a below reasoned view. It is a view, which is not fully reasoned. In social research and other research, hypothesis is used to mean a statement about the relationship, which helps to be investigated. **According to F.N. Kerlinger, "Hypothesis is the most powerful tool man has invented to achieve dependable knowledge"** Once the problem to be answer is defined, the researcher formulates theory. Theory formulation leads to hypothesis formulation. Data collection and analysis revolve around the hypothesis, when hypothesis comes to be true, it originates theory. Hypothesis is an educated guess about a problem's solution. It shows the relation between two or more variables, which need to be investigated for the truth. Non-hypothesis can be defined as logically conjectured relationship between two or more variables in testable statements. Hypothesis is always presented in declarative sentence form. They can be general or specific.

According to G.A. Lundberg: - "A hypothesis is a tentative generalization the validity of which remains to be tested. It may be any hunch, imaginative idea or intuition whatsoever, which becomes the basis of action or investigation."

According to W. Goode and P.K. Hatt: - "A hypothesis is a proposition, which can be put to test to determine its validity. It may seem contrary to, or in accordance with common sense."

Examples of Hypothesis

Family planning can reduce the growth of population. There is no relationship between working condition and job satisfaction of workers.

Types or research hypothesis

❖ Null Hypothesis:

Null hypothesis is one, which indicates a definitive exact relationship between two variables. It is so called because this hypothesis usually reflect 'no difference' or 'no effect' situation. It means that there is no difference between two populations in aspect of some property and that the difference if any is only accidental and unimportant. The null hypothesis is akin to the principle that a man is innocent until he is proved guilty. It constitutes a challenge and the function of a research to give facts a chance to reflect this challenge. Example: - There is no difference between male and female in their productivity.

Statistically expressed: $H_0 : \mu_1 = \mu_2$

Where,

H_0 is null hypothesis

μ_1 is the productivity of male worker.

μ_2 is the productivity of female worker.

❖ **Alternative hypothesis:**

It is opposite of the null hypothesis. The alternative hypothesis is a statement, which expresses a relationship between two variables or indicates difference between groups. It is the statement of acceptance condition for each of the alternative courses of action or solution to problem. Example: male worker will have more productivity than female workers.

Statistically expressed: $H_1 = \mu_1 > \mu_2$

Where H_1 = alternative hypothesis

μ_1 = the productivity of male worker

μ_2 = the productivity of female worker

Formulation of hypothesis

Formulation of hypothesis

❖ **Deductive method /approach/logic:**

The deductive method is one in which the researcher develops hypothesis from theory and design a research strategy to test them. There, hypothesis formulation is preceded by theory formulation. A clear theoretical portion is developed prior to data collection.

❖ **Inductive method/approach/logic:**

The inductive method is in which the researcher develops hypothesis from specific observation. Here, the researcher first collects data and then develops theory as a result of data analysis. It is based on the principle of developing theory after the data have been collected.

The two approaches are closely interlinked. Theory and research go side by side. They have never ending interaction. The deductive approach owes more to positivism and the inductive approach to interpretive. However, such labeling is potentially misleading and of no practical value.

Differences between Deductive and Inductive method

Difference	Deductive method	Inductive method
Precedence	It moves from theory to data. It develops hypothesis from theory.	It constructs theory or principle from specific observation. It moves from data to theory.
Data		
Flexibility	It collects quantative data.	It collects qualitative data.
Generalization	It is a highly structured approach.	It is a more flexible structured approach to permit changes of research emphasis as the research progresses.
Others	It has necessity to collect samples of sufficient size in order to generalize conclusions. • It has need to	It has less concern with the need to generalize.

	explain casual relationship between variables. • It is application or controls to ensure validity of data. • It is the operationalization of concepts to ensure clarity of definition.	• It gains an understanding of meanings of human attach to events. • It is a realization that the researcher is a part of the research process. • It is a close understanding of the research context.
--	---	--

Sampling

Meaning and definition

For studying a social problem, it is difficult to study whole universe of the problem under study. In such a case, sampling has become commonplace idea. A sampling is a small proportion of a population selected for observation and analysis. It is a collection of items or elements from a population. By observing the characteristics of sample, one can make certain inference about the characteristics of the population from it is drawn; the act so involved is called sampling. Sampling can be defined as the selection of some

part of an aggregate or totality, the bases of which a judgment or inference about the aggregate or totality is made. It is the process of obtaining information about an entire population by examining a part of it.

According to F.N. Kerlinger: *“Sampling is taking any portion of a population or universe as representative of the population.”*

According to Y.D. Keskar: *“Sampling is the generalization in terms of the whole group through the facts assembled relate to only part of it.”*

Virtually every research study uses sampling method of some kind to generalize about population. It is deliberate rather than haphazard.

Sampling terms/Concepts:

1. Element:

It is unit about which information is sought. E.g. individuals, products, stores, companies etc.

2. Population:

It is also called universe. It is the aggregate of all elements defined prior to the selection of sample. Population can be finite or infinite.

3. Sampling unit:

It is the element available for selection at some stage of the sampling process. E.g. female 18-50 yrs.

4. **Sampling frame:**

It is the list of all sampling units available for selection from the population. A frame must a class list, list of registered voters, list of students and so on.

5. **Sample size:**

It states how many to be surveyed. e.g. should 50 or 60 students be interviewed?

Characteristics of good sampling

- ❖ A sample should be representative of the whole population.
- ❖ A sample should be independent i.e. interchangeability of units. Each unit should be free to include in the sample.
- ❖ The size of the sample should be adequate to generalize conclusions to the whole population.
- ❖ A sample should be free from prejudice and bias.
- ❖ A sample should be in coeternity with the objective of the study.
- ❖ The units included in the sample should be homogenous.
- ❖ Sampling should result in small sampling error.
- ❖ Sampling should be economy in terms of time, cost and effort.
- ❖ Sampling should have scientific base.

Benefits of sampling

- Sample saves money. It is less expensive.

- Sampling saves time because observing the characteristics of the sample takes lesser time than that of observing the whole population.
- Sampling may be more accurate .It enables more accurate measurements for a sample study because it is generally conducted by a trained and experienced investigator.
- Sampling remains only choice when the population contains infinitely many members.
- A sample is better in the event that the study result in the destruction or contamination of the element sampled.
- More coverage is possible with efficient management.
- It becomes easy to establish report with the information. It facilitates collection of information from them.
- The process of sampling makes it possible to draw valid inferences or generalization on the basis of large observation of
- variables within a relatively small proportion of the population.
- More intense study is possible.
- It increases administrative convenience.

Limitations of sampling

- Due to human involvement, there could be human bias and subjectivity in the sample itself. It could lead to wrong and misleading result.
- Its phenomena are complex in nature, the selection or sample becomes more difficult. It is difficult to pick two similar situations, institutions or individuals for sample picking.

- If the sample units are not homogenous, the sample technique will become more hazardous and unscientific.
- The sampling technique becomes scientific only when it is done by specialized investigator.
- There is difficult in selecting representative.
- There is difficult in sticking to samples.
- When the characteristics to be measured occur in rare conditions, sampling will not give statistically reliable information about it.

Sampling design

A sample design is a definite plan for obtaining a sample from a given population. It refers to the procedure the researcher will adopt in selecting items from the sample. It is designed before data collection. In designing a sample, the researcher must consider three things: sampling frame, selection of sampling items and sample size. The basis components of a sample design are :

- Choosing the sample units (who are to be surveyed)
- Choosing the sample size (how many to be surveyed)
- Choosing the sample procedure (how to ensure that those who are to be interviewed are included in the sample)
- Choosing the media (how to reach respondents in the sample-through mail survey, personal interview, telephone interview.)

Types of sampling

- ❖ Probability sampling
- ❖ Non probability sampling

❖ Probability sampling: -

In it , each item or element in universe has equal chance of being selected. It is called random/chance sampling. Each element of the population has known chance of being selected for the sample. The sampling is done by mathematical decision rules that leave no discretion to the researcher or field interviewer. Four main types of probability sampling are:

a. *Simple random sampling:* -

In it, the individual observation or individuals are chosen in such a way that each has chance of being selected, and each choice is independent of any other choice. This is used only in those studies where entire population can be listed that are finite population.

Example: - If we wished to draw a sample of 50 individuals from a population of 600 students in a college, we can use simple random sampling.

b. *Systematic random sampling or systematic sampling:*

It consists of the selection of each nth term from a list. First, the item is randomly selected and then a sample item at every nth interval is selected. It is simplest and widely used method of drawing sample. It is used when population size is large and when it become very tiresome to use table of random number to select a sample.

c. *Stratified random sampling or stratified sampling:*

It involves dividing the population in strata (subgroup). It is used when we have to select sample from a heterogeneous population. Example: If a researcher has to select 300 students from a college for study, he has to first stratify the student population into two strata; their sex-male and female or in a similar way.

d. *Cluster or area or multistage sampling:*

It is a success random of sampling of units or sets and subsets. Cluster is naturally occurring group of participants. They are randomly selected. Once the cluster has been selected, then all participants within the cluster are surveyed. It is also called multistage sampling because sample selection passes through a sequence of stage.

Example: - District of the country can be randomly selected, then schools, then classes and finally pupils.

❖ *Non probability sampling*

In it , all items in the population don't have equal chance of being selected, it uses that ever subjects are available rather than following a specific subject selection process. Samples are determined by personnel convenience or judgment of the researcher but not by

chance. The various type of non probability sampling is as follows.

✓ ***Convenience sampling: -***

It refers to samples selection on the basis of convenience of the researcher. A sample is chosen purely for expedience because it is cheap to find. The sample then would not necessarily be a representative one. Commonly used convenient samples are friends, relatives, family members, associations etc.

✓ ***Purposive/Judgment Sampling:***

It refers to the sample selected on the basis of what some experts think particular sampling units or elements will contribute to answering particular questions at hand. It is an expert judgment based sampling .Using this method , specialists in the subject matter of the survey choose what they believe to be the best sample for that particular study. It is moderately used in practice. Example: - A group of sales manager might select sample of grocery stores in city that they regard as representative in some sense.

✓ ***Quota sampling:***

Quota sampling derives its name from the practice assigning quotes or proportions of kind of people to interviewers. It involves three steps; Selection of control characteristics (sex, age, education, etc.) and determination of the proportion of the

universe having equal set of characteristics. Allocation of the sample among cells (how large a sample should be taken from each cell) Selection of the sample item. Example: An interviewer may be instructed to conduct the interviews with people 30 years old and half with people under 30 years. Here, the control characteristic is the age of respondents.

✓ ***Sequential sampling:***

In fixed-size sampling the number of items is decided upon in advance whereas in sequential sampling, the number of items is not presented. In sequential sampling one usually measurements .On only a single unit or the population or a group of population units at a time. The measurement or each group is cumulated with those of previously measured groups. The data are analyzed as they are assembled and sample size is not predetermined. The mathematics underlying sequential samplings are more complex and time consuming.

✓ ***Snowball sampling:***

It refers to a procedure in which initial respondents are selected randomly but where additional respondents are then obtained from referral or by other information provided by the initial respondents. One uses this method where respondents are difficult to identify and are best

located through referral network. The “snowball” gather subjects as it rolls along. It is widely used to study drug culture, teenage gang activities, community relations etc. Its purpose is to estimate various characteristics that are rare in the total population.

Field work

Meaning and definition

Exposure to practical reality is must for a student from business and professional school. Such schools everywhere require their students to acquire conceptual knowledge as well as practical skills while at school. Conceptual knowledge can be acquired through class lectures and text books. For providing practical exposure to students, business/professional schools use a variety of methods. One of them is field work also called project work. The field work assignment is an off – the –class room study project undertaken by a student under the guidance of faculty members. The students are required to visit origination for field work. Students have to write an submit a field work report using the format as approved by school after they work in origination for a specific period of time. Field work can be described as a systematic and organized effort to study and observe a specific organizational situation in hand. Thus, the field work process involves series of well thought out and carefully executed activities. It encompasses the process of enquiry, investigation, observation and examination. The expected objective is to discover new

facts and relation about the organization phenomena under investigation. We can now define field work as an organized, systematic, data-based scientific investigation in specific situation under taken with the objective of gathering information that enables the students to gain familiarity with the situation and generate more knowledge about phenomena under investigation.

Preparation for field work.

❖ Pre-field activities:

The students make some preparations before they actually visit the organization for study. At this stage , students should prepare following activities:

- ✚ Selection of study area that depends upon the student interest, capability and feasibility of the study.
- ✚ Selection of study scheme such as survey case study or feasibility study.
- ✚ Selection of organization for location for field study.
- ✚ Preparation for plan/data needs such as data collection method and instruments.
- ✚ Consulting library for more information
- ✚ Consulting the professor to finalize entire scheme of the field work.

❖ Field work activities:

At this stage, students should prepare the following three phases:

- ✚ At the initial phase, students should introduce himself to the organization and try to learn more about the organization. They should include: meeting the chief

executive, meeting officer- in – charge, the unit and collection the relevant materials.

- ✚ At the observation phase student should study and observe the organization action. This is practical phase of field work. The students do this activity. Overview of the organization, observation of the unit selected field study , collection of relevant data , observation of the work system, questionnaire to administration; etc

- ✚ At the concluding final phase, the collected materials or observed systems in operation should be wrapped up. The following points should be noted:

- ✓ One should make sure that enough materials for report writing and oral presentation have been collected.
- ✓ The student should test and verify his/her impressions and findings of observation.
- ✓ The student should make a courtesy call on the chief executive and gratitude to them for their cooperation.

❖ Post field work activities:

This is the final phase of the field work assignment, at this stage, student should prepare for report writing.

The following activities should be performed: -

- Organizing data in meaningful way
- Recording observations in a logical manner and present them in the report where appropriate.
- Writing the field work report in prescribed style and reporting the field report

- And finally submitting the field work report to the concerned authority and preparing for the oral presentation.

Validity

It is concerned with measurement of quality of data. It ensures measuring what is expected to measure. It is the characteristics used to describe a test which measures what it claims to measure.

According to F.N. Kerlinger: - *“The commonest definition of validity is epitomized by the question: Are we measuring what we think we are measuring.”*

According to J.W. Best and J.V. Kahn: - *“Validity is that of gathering instrument or procedure that enables to measure what it is supposed to measure”*

Basis of Validation:

Logical validation:

This refers simply to a type of theoretical, intuitive, or common sense analysis. This type of validation is derived from the careful definition of the continuum of a scale and the selection items to be measured. It is a component of content of validation.

Jury opinion:

It refers to the personal judgment of experts to the field. The behavior scientist's ordinary element to measure content validity by such jury opinions. That is, several content experts may be as judge whether the items being used instrument and

representative of the field be investigated . The result of this procedure reflects the ‘conformed’ judgments of experts in the content field.

Known groups:

Closely related to jury opinion approach for assessing content validation is a method involving known groups. With this approach, validation comes from the known attitudes and other characteristics of antiethical groups and not from specific expertise.

Independent criteria:

One of the validity measurement include considering independent criterion. The research attempts to develop or obtain an independent criterion against which the measurement results be matched. Criterion validity can be assessed by correlating the set of scaling result under study with other set, developed from another instrument is administered at the same time. When one predicts success or failure of student from academic aptitude measures, the researcher is concerned with criteria – related validity.

Reliability

It refers to the degree of consistency that the instrument/ procedure demonstrate whatever it is measured does so consistently and accurately. It is the consistency and accuracy of scores obtained by the same variable when retested with the identical or equivalent test. Synchronous for reliability are: dependability, stability, predictability, accuracy. A reliable man, e.g. man whose behavior is consistent , dependable and

predictable –what he will do tomorrow and next week will be consistent with what he / she does today he has done last week.

According to Best and Kahn: *“A test is reliable to the extent that it measures whatever is measuring consistently”.*

According to Boyd and Others: *“Reliability is the characteristics of research methodology which allow it to be repeated again and again by the same and by different researchers”.*

Methods of measurement of reliability

1. Test-retest method:

It involves repeated measurement using the same instrument under as nearly equivalent conditions as possible. The results of the two administrations are then compared and the degree of correspondence is determined. The greater the difference, the lower the reliability and vice versa. This method examines the stability of response.

2. Alternative form method:

It involves using two equivalent forms of measuring instruments to the single subject. The result of the two instruments is compared on item-by-item basis and the degree of similarity is determined. The scores on a test are highly correlated with scores on an alternative form of test. The greater the difference lowers the reliability and vice versa.

3. Split-half method:

It involves dividing the total number of items into two groups: odd number and even number item. Scores on the odd number items are then correlated with the scores on the even numbered items. Or, the scores on the half of the test can be correlated with scores on the second half of the test. The greater the difference the lower the reliability and vice versa.

Chapter 3 Research design

Research design

When particular research area has been defined, research problem is defined, and the related literature in the area has been reviewed, the next step is to construct the research design. It is fundamental to the success of any scientific research. Research design means an overall framework or plan for the activities to be undertaken during the course of a research study. It involves decisions regarding what, where, when, how much and by what means concerning a research study. It constitutes a blue print for the collection, measurement and analysis of data. It serves as a framework for the study, guiding the collection and analysis of data, research instrument to be utilized and the sampling plan to be followed.

According to Kerlinger : *“Research design is the plan , structure and strategy of investigation conceived so as to obtain answers to research questions and to control variance.”*

According to Kinner and Taylor: *“ A research design is the basic plan which guides the data collection and analysis phase of the research project. It is the framework which specifies the type of information to be collected, the source of data and the data collection procedure.”*

Elements of research design

1. Problem:

A problem is an interrogative sentence or statement that asks what relation exists between two or more variables. The answer is what is being sought in the research. Research design is based on the research problem.

2. Methodology:

It deals with a choice of research design methods of measurement and types of analysis. All of these must be congruent. They must fit together. Methodology should be appropriate to the research problem.

3. Data gathering:

To implement general plan of research, methods of data collection must be used. There is always mutual inter plan of the problem and method. Problems dictate methods to a considerable extent. It can use internal or

external sources. The tools can be questionnaire, observation, interview, etc.

4. Report writing:

It involves preparation and presentation of the research report. A report is a presentation of the research findings directed to a specific audience to accomplish specific objective.

Purposes of research design:

o To provide answer to research question:

Research design is invented to enable the researcher to answer research questions as , objective, accurately and economically as possible.

o To control variance:

It enables the investigator to gather and analyze his data in certain ways, It is a control mechanism.

Types of research design:

1. Descriptive research design:

❖ Descriptive research design is designed to describe something. It simply portrays an accurate profile of organizations, events, situation or any phenomena. It describes conditions or relationship that exists, opinion that are held, process that are going on, effects that are evidence or trends that are developing. It is the fact finding operation design to search for information. Investigators collect, classify and correlate data to describe that exists. But it does not answer why

phenomena behave as they do. Descriptive research is appropriate in the following conditions:

- Portraying the characteristics of social or any phenomena and determining the frequency of occurrence.
- Determining the degree of to which variables are associated.

Purposes of descriptive research

- To collect detailed factual information that describes existing phenomena.
- To identify problems or justify current conditions and practice.
- To make comparisons and evaluations.
- To determine what others are doing with similar problems or situations and benefit from their experience in making future plans and decisions.

2. Exploratory research design:

It is designed to explore ideas and insights in order to obtain a proper definition of problems at hand. It is appropriate for the early stage of decision making process. It is designed to obtain a preliminary investigation of the situation with a minimum expenditure of time and cost.

Purpose of exploratory research

- To identify problems and opportunities.
- To develop a more precise formulation of a vaguely identified problems or opportunity.

- To gain perspective regarding the breadth of variables operating in a situations.
- To establish priorities regarding the potential significance of various problems or opportunities o To identify and formulate alternative courses of action.
- To gather information on the problems associated with doing conclusive research.
- To gain management and researchers perspective regarding the character of the problem situation.

3. Experimental research design:

It describes what will be when certain variables are carefully controlled or manipulated. The focus is on variable relationship. The purpose of experimental research is to investigate possible cause-and –effect relationship as well as to understand the nature of functional relationship between caused factors and affect to be predicted. An experimental design involves the specifications of:

- Treatments that are to be manipulated.
- Test units to be used.
- Dependent variables to be measured.
- Procedures for dealing with extraneous variables.

Research proposal

A research proposal is an argument for the proposed study. It is comparable to the blue print that the architect prepares before the bids are let and buildings commences. By definition, a proposal is a persuasive presentation for consideration for something. Proposals are made by individuals or organizations

to individuals or organizations. They are usually written but they can be oral presentation or combination of both. The main purpose of research proposal is to explain and justify the proposed study to an audience. Many institutions require that proposal be submitted before any project is approved. This provides a basis for the evaluation of the project and gives the advisor a basis for assistance during the period of his direction. It also provides a systematic plan of procedure for the researcher to follow.

Topic selection

A research proposal is prepared on a given topic. A research topic is essentially the specific problem area which requires an investigation. However, topic selection is not an easier job. It demands for rigorous mental exercise. It takes of great deal of searching problem topic. In university students need to submit a topic in a proposal form to his thesis advisor.

Sources of topic

- A problem of the student's own interest based on his experience , judgment, etc.
- Articles in different publications such as newspaper, journals, magazine, etc.
- Library and other research studies.
- Text/ reference book.
- Advisor's suggestions.
- Visiting organizations and interacting with the authorities.

Guidelines for topic selection

- The student should immediately begin to think about his topic selection.
- The size of the topic should not be too broad or too small.
- The topic chosen should not be too complex.
- Material and data on the topic should be available.
- Topic should be researchable.

Format of the research proposal

1. Title:

It is the broad heading of the research proposal. It should be clearly stated at the beginning. The title should represent the proposed study. It should be short and unnecessary term should be avoided.

2. Background information:

This part of proposal gives useful information of the study that introduce briefly about it. It includes:

- Background of the problem.
- Description of the topic in general and how the researcher developed in it.
- Background information on the organization to be studied.
- Relevance of the proposed study.

3. Statement of the problem:

This is often a declarative statement but may be in the question form. This attempts to focus on a stated goal

that gives direction to the research process. It must be limited enough in scope to make definite conclusion possible. The major statement may be followed by minor statement. This part includes:

- Statement of general problem which being investigated.
- Statement of detailed problem such as different variables and their associations.

4. *Significance of the problem:*

It is important that researcher point out how the solution to the problem or answer to the question can influence related theory or practice. i.e. the researcher must demonstrate why it is worth the time, effort and expenses required to carry out the proposed research. Failure to include this step in the proposal may well leave the researcher with a problem without significance- a search for date of little ultimate value.

5. *Definitions, assumptions, limitations and delimitations*

- The researcher should define all unusual terms that could be misinterpreted. The variables to be considered should be defined in peripheral form.
- The researcher should clearly state the assumptions of the study. Assumptions are statements or what the researcher believe to be facts but cannot verify.
- The researcher works within some conditions called limitations. They are those conditions beyond the control of researcher that may be restriction on the conclusion of the study and their

- Applications to other situations. It includes constraint like time, money, data, source, etc they must be clearly stated.
- The researcher should also state the boundaries of the study. They are called delimitations.

6. *Theoretical framework/ review of related literature:*

This part contains a summary of the writings of recognized authorities and of previous research. This is called literature review. It provides evidence that the researcher is familiar with what is already known and what is unknown and untested. Once effective research is based upon past knowledge, this step helps to eliminate the duplications of what has been done and provides useful hypothesis and suggestions for significant investigation. This part should contain the following:

- The variables considered relevant to the study should be identified.
- A clear explanation of relationship between those variables should be explained.
- The theorized relationship as visualized by researcher should be presented.

7. *Statement of hypothesis / objective:*

It is appropriate here to formulate hypothesis. They offer tentative answer to a question. It includes the followings:

- Statement of research hypothesis which the researcher will try to test.

- In the case of exploratory or descriptive studies, the specific objectives of the study should be presented. The statement or hypothesis / objectives in advance or the data gathering process is necessary for an unbiased investigation.

8. *Research methods:*

This section consists of three parts:

- ***Subjects:***
The subject section details the population of the study from which the researcher plans to select the sample. It defines sample size and sampling methods.
- ***Procedures:***
The procedures section outlines the research plan/design. It describes in detail what will be done, how it will be done, what data will be needed and what data gathering device will be used.
- ***Data analysis:***
This section describes the method of data analysis. It performs test of hypothesis. The statistical tools to be applied are to be mentioned.

9. *Reference/bibliography:*

The published sources of information and literature consulted in the course of proposal preparation should be alphabetically listed.

CHAPTER 4/5

DATA COLLECTION

Data collection

Data collection is an important step in social research. It is also known as field work. It involves administering the research tools to gather data. It connects link to the reality of the work for the researchers. Data collection consists of taking ordered information from reality and transferring to some recording systems so that social behavior can be understood and predicted. It is based on research design.

Data

Data are observations and evidence regarding some aspects of the problems/issue under study. **According to John Galtung:** “A datum is what is observed, in manifest or phonotypical”. Data provide information for decision making. Information reduces uncertainties in a decision making.

Types of data

Nearly endless varieties of data existence can be obtained but only few types are relevant to each research study. They can be classified on the basis source, quantification, function and others. By nature of data, there are two types of data: facts and opinion.

Facts

Facts describes tangible things. They measure anything that actually exists or can exist. Facts then described as things done

or a piece of information having objectives reality. Facts can be intangible as long as they can really be determined.

Examples of facts:

- The distance between Dharan and Biratnagar is 42 km
- We have 8 planets

The information presented in the above example give us the accurate picture of the distance and the number of planets respectively. However, the data based on estimates or on samples may not be reliable facts.

Opinion

Opinions are how people perceive something. They are what people believe about something and what whose beliefs signify. They are the results of people attitudes, intensions, knowledge and motives. These all reflects people perception about matter. It can be an attitude or image. Attitudes are mental sets or predispositions to some manner. An image is what something is like.

Examples of opinion: I believe there is life on Mars.

Importance of data collection

- Data collection completely fulfills the data requirements of a research project. It is the connecting link for the researchers to the world of reality.
- It provides the sources of comparative data by which data can be interpreted and evaluated against each other. Based on the data collection, data are presented and analyzed.

- It suggests the type and method of data for meeting the information needed. Several data collection methods are used to collect several types of data.
- It serves as a source of future reference and evidence because they are used to prepare written records. They can now provide lots of material for the subsequent research.
- It helps to takes ordered information from reality and transferring into some recording system so that it can be later examined and analyzed. It is from that pattern that social behavior can be predicted.

Sources of data collection

Data may be collected from several sources. It is not easy to list them in details. Researchers use these sources according to their data needs. However, the general classification of data collection sources can be presented under two groups:

Primary sources

It provides primary data. Primary data are first hand, original data collected by the researchers for the research project by hand. They are collected for meeting the specific objectives of the study. They can be obtained from families, representatives, organization, etc. interviews, questionnaire, observation are the major tools for collecting data from primary sources.

Secondary sources

It provides secondary data. Secondary data are already gathered by others. They are attained indirectly. The researcher

doesn't obtain them directly. They are collected by some other researchers before and have been processed at least once.

Types of secondary data

Internal secondary data

They are available from in-house source. The source like within the organization. Sources of such data include representative's report, shipment records, accounting data etc.

External secondary data

They are available from the sources outside the organization. Such sources include published report, library, computer, data books, etc.

Data collection methods/techniques

No matter what the basic design of the research, it is necessary to collect accurate data to achieve useful results. Researchers use a number of methods to collect data. They are as follows:

Survey

The term survey has two constituents, "sur" which means over and "view" which means to see. Thus, the word survey means to oversee, that is, to look over something from high place. A survey is a data collection method based on the study of a given population. It is a systematic gathering of information from the people for the purpose of understanding or predicting some aspect of their behavior.

The survey method gathers data from a relatively large number of cases at a particular time. It is not concerned with character of individuals. It is concerned with generalized statistics that

results when data are abstract from a number of individual cases. It is essentially cross sectional. National population census is an example of survey. Survey data are expressed in numbers or percentages.

Types of surveys

❖ **Census survey:**

It covers the survey of entire population. It is very expensive and time and effort consuming. But it provides diverse range of data.

❖ **Sample survey:**

It covers the study of a sample group only. A part of the population or unit. It is less expensive and less time and effort consuming.

❖ **Regular survey:**

It is conducted after regular intervals. Generally, the government uses it to obtain data about economics problems etc.

❖ **Ad Hoc survey:**

It is conducted for certain purpose and is undertaken once for all. Mostly, it is conducted for testing hypothesis, getting missing or new information.

❖ **Primary survey:**

It is conducted in order to acquire directly the relevant facts and information. It is more reliable than secondary survey.

❖ **Secondary survey:**

It is conducted after the primary survey has been completed.

❖ **Official survey:**

It is conducted by government to serve general or specific information for formulating plans and policies.

❖ **Non official survey:**

It is conducted by non-government persons or agency.

❖ **First survey:**

It is conducted in area for the first time.

❖ **Repetitive survey:**

It is conducted subsequent to first survey. It is made for second or third time and so on.

❖ **Open survey:**

It is also called public survey. The repetitive survey is publicly available. It is of general importance.

❖ **Confidential survey:**

The result of the survey is not made public. Information is not revealed to the common people.

❖ **Social survey:**

It is conducted to collect facts about the social aspects of a community's position and activities.

❖ **Public opinion:**

It is conducted to know the views of the people in any subjects like legalized abortion, open prostitution, homosexual activities etc.

Interview

It is a technique of primary data collection. It is an oral method in which one person asks another person questions designed to obtain answer pertinent to the research problem. It is most commonly used direct method in the study of human behavior. The interview is a face to face interpersonal role situation in which one person asks another person being interviewed. The respondent question designed to obtain answer pertinent to the purpose of the research problem. The interview may be regarded as a systematic method by which one person enters more or less imaginatively with the inner life of another who is generally a comparative stranger to him.

The purpose of interview is to find out what's in or on someone else's mind.

According to Kerlinger “The interview is a face to face interpersonal role situation in which one person, the interviewer, asks a person being interviewed, the respondent, questions designed to obtain answers pertinent to the purpose of the research problem.”

Research interview schedule

Interviewing itself is an art. But planning and writing an interview schedule is even more or so. The research interview

schedule is a guideline which the interviewer follows indicating which question should be asked. As interviewer asks the question, s/he records the response. A good interviewer will let the respondent do most of talking.

Formats or research interview schedule

There are three formats of interview schedule providing 3 kinds of information. They are:

Fixed – alternative item interview

It offers the respondents a choice among two or more alternatives. The responses are limited to stated alternatives. These items are called or full questions. The commonest kind of fixed –alternative items is dichotomous. If asks for yes-no, agree-disagree, and other two alternative items often a third alternative don't know or undecided is added.

Open-end item

Open-end item is an interview schedule that lists only the main question. It permits the respondent to answer the question in the way s/he likes. The contents of the schedule are dictated by the research problems. They impose no other restriction on the contents and the manner of respondents answer. Open-end questions are more flexible. They have possibilities of depth. Misunderstanding can be clear up through polling.

Example: Do you have any contacts with any members of the faculty outside of class?

If yes, how often is that?

Scale item

A scale is set of verbal items to each of which an individual responds by expressing degree of agreement or disagreement or some other mode or response. Scale items have fixed alternatives and place the responding individual at some point on the scale.

Example:

How do you rate your college library in relation to your needs?

1. Terrible
2. Unsatisfaction
3. Satisfaction
4. Very good
5. Excellent

Types of interview

➤ ***Structured or standardized interview***

In this interview, the questions, their sequence and their wordings are fixed. The same question is asked to everybody in the same manner. In general, the interviewer doesn't have flexibility to change the question, their format or order. Sometimes an interviewer may be allowed some liberty in asking question but relatively little. That liberty is specified in advance. Standardized interviews are interview schedule that have been carefully prepared to obtain information pertinent to the research problem.

➤ ***Unstructured or unstandardized interview***

In the interview, the sequence and wording of question are not fixed. The interviewer doesn't follow pre-planned list of the question. The interviewer writes the response of the interview during the interview or after interview is

completed. It is more flexible and open. Ordinary no schedule is used. They don't mean that unstructured interview is casual. The interviewer will have a tentative list of question to be covered during the interview.

Questionnaire

A questionnaire is a format list of questions designed to gather respondent from respondent on a given topic. It is a formalized schedule for data collection. It is used when fractional information is designed. When opinion rather than facts are desired, opinionnaire or attitude scale is used. Questionnaire is a term used for almost any kind of instrument that has questions or items to which individuals respond. A questionnaire is a list of questions to number of persons for them to answer. It secures standardized results that can be tabulated created statistically.

Type of questionnaire

▪ ***Open or open-ended question:***

It calls for free response in the respondent's own words. It requires the respondents to provide their own answer to the question. No alternative answer is given.

▪ ***Close or close-ended question:***

It is also called restricted questionnaire. It offers the respondent choice among two or more alternatives. Answer to each question is predetermined and included in the question form. The respondents mark yes or no or write a short response or check an item from the list of suggest response.

Types of close- questionnaire

❖ *Dichotomous questionnaire:*

It offers only two alternatives; positive and negative. The response would be yes or no; agree or disagree; and so on. It is also known as two way questionnaire.

❖ *Multi chotomous questionnaire:*

It is also called multiple choice questionnaires.

Questionnaire Design

A questionnaire is designed to collect right type of primary data of right quality. The design of questionnaire is more than art from than a scientific undertaking. Questionnaire design comes from the experience of the researchers who specialized in this area. The only way to develop this skill is to write a questionnaire, use it in a series of interviews, analyze its weakness and revise it.

There are no series of step, principle or guidelines with guarantee on effective and efficient questionnaire. An effective questionnaire is one that

- Draws out accurate information
- Can be completed easily by interviewers
- Flow well
- Leaves the respondent feel satisfied for their worth while participation in the research

There are series of seven steps in questionnaire design as started below:

Review of preliminary considerations

It involves the review or research objectives and the listing of information needs. Decision regarding questionnaire design must built upon and be consistent with decision relation to other aspect of the research project previous decision regarding the type of research design and the source of data directly influence the character and role of the questionnaire in the research project. The questions on the questionnaire should flow logically from the list if information needs as well as a clear definition of the respondent group. Questionnaire is the device between information needed and the data to be collected.

Decision and question content

Once the preliminary consideration is reviewed the researcher is now ready to begin formulating the questionnaire. This stage decides what to include in individual questions. The contents of the question are influenced by the respondent's ability and willingness to respond accurately. Many types of data cannot be collected that result in inaccurate data. This is due to respondent being uniformed (they have no idea about the topic) or they are forgotten. Similarly, the respondents are unwilling to respond accurately because of three reasons:

- The situation is not appropriate for disclosing data
- Disclosure of data would be embarrassing
- Disclosure is a potential threat to the respondent's prestige

Decision on response format

Once the problems related to the content of questionnaire have been analysed, the next issue concerns the type of questions used. It involves the degree of structure imposed on the person's response. The three types of questions range from unstructured to structured formats. They are open-ended questions, multiple choice questions and two-way questions. Each format has its merits and demerits.

Decision on questions wording

The heart of the questionnaire consists of questions asked. These questions represent links between the data and the information needs of the study. It is critical that researchers and respondents assign the same meaning to the question asked. If not serious measurement errors will be presented in the research result. The followings are nine general guidelines should be followed in designing the wording of the questions: use simple words, use clear words, avoid leading question, avoid biasing questions, avoid implicit alternatives, avoid implicit assumptions, avoid estimates, avoid double-barreled questions and consider frame of reference.

Decision on question sequence

It involves the establishment of questions in sequence that is the order of flow of questions in questionnaire. The sequence of the questions can influence the nature of the respondent's answers and be the cause of the serious errors in the survey findings. This aspect of questionnaire design draws heavily of theand experience of researcher. The researcher can see the following guidelines in this regard: use of simple and interesting questions, ask general questions first,

place uninteresting and difficult questions late in sequence and arrange questions in logically order.

Decision on physical characteristics

The physical appearance of questionnaire can be influential in securing the cooperation of the respondent. This is particularly the case with mail surveys. The quality of paper and printing often determines the respondent's first reaction to the questionnaire. With personnel and telephone interview, the questionnaire should be numbered serially. Three major points for consideration: securing acceptance of the questionnaire by respondents, making it easy to control the questionnaire and making of easy to handle questionnaire.

Protest, revision and final draft

Before the questionnaire is ready for field operation, it needs to be protested and revised. Protesting refers to initial testing of one or more aspect of the questionnaire design. Most questionnaire design requires at least one pretest and revision before they are ready for field operation. Pretests are best done by personnel interview even the survey is to be traveled by mail or telephone. The number of people interviewed in the pretest can range from 15 to 30. When significant change is made in the questionnaire another pretest should be conducted. If the pretest result suggests minor changes, the questionnaire is ready for the final draft and distribution to the field operators.

Merits of questionnaire

- ✓ It is versatile. Almost every problem of social research can be approached from the questionnaire stand point. Every social problem involves people. Therefore, ideas relative to the problem and solution can be obtained by asking these people about the problem
- ✓ Many people can be studied only by questioning. Knowledge, opinions, motivation, and intentions are usually not open to observation. Similarly, it is not feasible to observe personnel activities such as burning teeth. So, it is feasible.
- ✓ Questioning is usually faster and efficient than observation. Some events that take place over a time period would require lengthy observation, but a question on this behavior can be answered in a few seconds.
- ✓ It is cheaper than observing. The researcher has not to stand time to observe the behavior of the respondent. A decrease in time usually lead to decrease in cost.
- ✓ The person administrating the questionnaire has an opportunity to establish report, explain the purpose of the study and explain the meaning of items that may not be clear.

Other advantages

- ✓ Facilitates the study of larger population
- ✓ Early receipt of information is possible
- ✓ Provides valid information
- ✓ It is self-administrative

Disadvantages of questionnaire

- ❖ Respondents would be unwilling to provide information. Questions about income or very personnel subject frequently meet refusal by respondent. The show little or no interest to the question.
- ❖ Despite a willingness to cooperate, many people are unable to give accurate information of questions.
- ❖ There can be influence on questioning process. Often respondent attempt to give answers that they think will please the researchers.
- ❖ Filling out lengthy questions take a great deal of time and money.

Other disadvantages

- ❖ It cannot be used in illiterate person.
- ❖ Incomplete responses are possible
- ❖ There is a possibility of wrong answer
- ❖ Useless in depth problem
- ❖ Uniform questions are not applicable to other people of different ethnicity, culture etc.

Case study

A case study refers to specific unit of analysis for the study. The unit may be a person, family, a social group, a social institution or committees. A case study involves intensive study of a relative small number of situations. It views a social unit as a whole. It places more emphasis on the full analysis of limited number of events or conditions another behavior. It is a longitudinal approach so in development over a period of time the case study processes deeply and analyses interactions between the factors that explain present status or that

influences change or growth. The purpose is to understand life cycle or an important part of life cycle of the unit.

Case study is the method of exploring and analyzing the life of social unit, be that unit a person, a family, institution, culture, group or even entire community.

Characteristics of Case Study

- ✓ Case studies are in depth investigations of a given social unit resulting in a complete well organized picture of that unit.
- ✓ It is a study of a unit as a whole. The unit may be a person, a family, a social group, an institution, a committee or situation.
- ✓ It is quantitative analysis not based on scientific analysis.
- ✓ It follows on typicalness rather than uniqueness.
- ✓ It examines a small number of units across a large number of variables and conditions.
- ✓ A generalization drawn from a single case cannot be applied to case in given population.
- ✓ It is a longitudinal approach. It shows a development over a period of time.
- ✓ It deals with both what and why of the subject. It describes the complex behavior pattern of a unit.
- ✓ It identifies three factors:
 - Features which are common to all cases in a general group.
 - Features which are not common to all cases but are common to certain subgroups.
 - Features which are unique to specific cases.

Steps/phases in case study

- ✚ State the objectives. What is the unit or study and what characteristics and process will direct the investigation?
- ✚ Design the approach. How will the unit be selected? What sources of data are available? What data collection method is used?
- ✚ Collect the data.
- ✚ Organize the information to form a coherent, well-integrated reconstruction of unit of study.
- ✚ Report the result and discuss their significance.

Strength/merits of case study

- ❖ Inferences are obtained from study of an entire situation.
- ❖ A case study is description of a real event or situation where as a statistical study involves abstraction from real situation. Example: an average may be typical of a large group, but not descriptive of a single unit in the group.
- ❖ More accurate data are obtained.
- ❖ Case study is particularly useful as background information for planning major investigations in the social sciences.
- ❖ It is source of important hypothesis.
- ❖ The researcher gains many new insights into human behavior and becomes emotionally mature.

Limitations of case study

- Since case study gives detailed description of complete situations, it is difficult to develop formal method of observation and recording. Informal method tends to become subjective rather than objective.
- Lack of objectivity carries out into the analysis case data. This may lead to unwanted conclusions.
- In analyzing cases, investigators are inclined to generalize although the case study method does not lend itself to generalization. Case studies are limited in their representatives because of their narrow focus on a few units.
- It is highly expensive and time taking.
- It lacks sample method.

Observation

It is a method of gathering primary data physically or mechanically recording events or aspect of the phenomenon under investigation. It involves recording of the respondents' behavior. It is the process of recognizing noting people, objects and occurrence of events rather than asking for information. It can supplement the information collected through questionnaire and interview.

Observation is the process of recognizing and recording behavior of people, objects and events. Observation is systematic and deliberate study through eye, of spontaneous occurrence at the time they occur.

Example: instead of asking consumer what brand they buy or what television program they watch, the researcher arrange to

observe what product are brought and what program they watch.

Characteristics of good observations

- ❖ Observation should be carefully planned, systematic and perceptive. Observers should know what they are looking for and what is irrelevant in a situation.
- ❖ It should focus on wholeness of what is observed. Observers should not only be alert to significant details, they should also know that the whole is often greater than the sum of its parts.
- ❖ It should be objective and bias-free. Observers should strive to eliminate their influence what see and report.
- ❖ It should separate the facts from the interpretation of facts. Observers observe the facts and make their interpretation at a later time.
- ❖ It should be checked and verified whenever possible by repetition or by comparison with those of other competent observers.
- ❖ It should be carefully and expertly recorded. Observers use appropriate instruments to systematize, qualify and preserve the result of their observations.
- ❖ Observations are collected in such a way that they are valid and reliable.

Validity of observation

Validity is that trial or quality of a data gathering procedure that enables to measure what it supposed to measure. Validity generally results from careful planning of observation. For the researchers observation to achieve a satisfactory degree of

validity. Observation should achieve content, criterion-related and construct validity. To achieve a satisfactory degree of content validity, the researcher should identify and sample truly significant incidents of behavior. For this, a subjective judgment of expert in the field may be taken. The experts help in selecting a limited number of observable incidents whose relationship to the qualities of interest is based upon established theory.

Criterion-related and construct validity are also headed in observation. They depend upon purpose of the study and inference made regarding behavior. For instance, if certain behavior were considered to be evidence of persons being shy, construct validity is needed to demonstrate a relationship between the behavior and the underlying content.

Criterion related validity can be used when researcher wants to predict behavior from observing any action of the respondent.

Reliability of observation

Reliability is that quantity....of a data gathering technique that enables to measure the degree of consistency. Observation data are considered to be reliable when they assure consistency in measurement. When researchers are role observers, they unconsciously tend..... What they expect to see and to overlook those incidents that do not fit their theory. Their own values, feelings and even attitudes may distort their observations. To overcome this, it may be desirable to engage others who are well prepared as observers. The researchers should not be observer.

Recording observation

Observation should be recorded. If it does not distract or create a barrier between observer and those observed, simultaneously recording of observation should be done. This participate minimize the errors that results from faulty memory. When recording would more appropriately done after observation, it should be done as soon as possible while the details are still fresh in the mind of the observers.

Systematizing data collection from observation

To aid in the recording of information gained through observation, a number of device have been extensively used. They are:

❖ **Checklist**

- It is a prepared list of behavior or items. It is the simplest of the device. The presence or absence of behavior may be indicated by checking yes or no, or the type of number of items may be indicated by inserting the appropriate word or number.

❖ **Rating scale**

- It involves qualitative description of limited number of aspects of things or traits of person. The classification may set up in 5 or 7 categories in such terms as:

I	Superior	Always	Average	Fair	Inferior
II	Excellent	Good	Average	Below average	Poor
III	Always	Frequently	Occasionally	Rarely	Never

❖ **Scale specimen**

- It provides a method for evaluating certain observed level of performance or measure of a quality in question. It is not frequently encountered in behavioral measures

Analysis and presentation of data

Analysis of data

Analysis means categorizing, ordering, manipulating, and summarizing of data to obtain answers to research questions. The purpose of analysis is to reduce data to intelligible and interpretable form so that the relations of research problems can be studied and tested.

Method of data analysis

➤ **Descriptive analysis:**

It limits generalization to the particular group of individuals observed. No conclusions are extended beyond this group and any similarity to those outside the group cannot be assumed. The data describes one group and that group only. It provides valuable information about the nature of particular group of individuals.

➤ **Inferential analysis:**

It is also called logical or statistical analysis. It is probably based. It always involves the process of sampling and the selection of a small group that is assumed to be related to the population from which it is drawn. The small group is called the sample and the large group is the population.

Presentation of data:

The presentation of data is the basic organization and classification of the data for analysis. After data collection is completed, the data will be in the raw form. It is necessary to arrange the data so that it makes some sense to researchers as well to the readers. Different types of data require different methods of summary and presentation. Data are presented in charts, graphs and tables.

**CHAPTER SEVEN
REPORT WRITING**

Definition

No matter what quality is of the research undertaken, much of the acceptance of the results depends on the way a they are communicated to the relevant audiences. This act of communicating is called report writing. It is the final step in the research process.

A report is simply a statement or description of theirs that have already occurred. It is culmination of the research findings to a specific audience to accomplish given purpose. This presentation can be written or given orally or both. It is concise and clear communication of findings of the research work.

According to Kinner and Taylor- “A research report can be defined as the presentation of the research findings directed to a specific audience to accomplish specific purposes. “

Its objective is to tell readers the problems investigated, method used to solve the problem, result of the investigation and conclusion inferred from the result. It is to report what was done, why it is done, outcome of the doing and researchers' conclusion.

Guidelines for report writing

- ❖ The research report is design to communicate information for use by decision maker, so obviously it must be tailored to his need.
- ❖ Report should be concise yet complete. It should cover the important points of the project and should exclude the unimportant.
- ❖ The research report must be an objective presentation or the research findings.

Organization/format/main body of report

❖ ***Title page***

The title page appears first. It should indicate the subject, data to the report is prepared, for whom prepared and by whom prepared. If the research report is confidential the name of those individuals to receive report should be specified on the title page.

❖ ***Table of contents***

If the report is lengthy or it is divided into numerous parts, it is usually describe to have table of content. Table of contents list the sequence of topic covered in the report long with page reference. Its purpose is to aid the readers in findings the particular section in report. If the report includes numerous chart, graphs, and figures they should be listed immediately following the table of content by page number.

❖ ***Management/executive summary***

Most decision maker requires that the research report contains one or two page management summary. Most executives choose to read only this summary. It provides the executives with the key research findings which bear on the decision problem. It contains objective of the research project, conclusion and specific recommendation for action.

❖ ***Foreword***

This serves to introduce the readers to the research project. It should give background of the problems like how and when it comes to existence, importance of the problem, various dimensional of the problem and whether any previous research was done which is pertinent to the specific project being reported.

❖ ***Statement of objectives***

The specific objectives of the report need to be set forth clearly. The readers must know exactly what the report covers.

❖ ***Methodology***

It describes the research procedure. This includes the following

➤ **Research design**

It can be exploratory or conclusive the researcher should describe the particular design used.

➤ **Data collection method**

The researcher must explain the data collection method used. Data can be collected from primary or secondary source with various methods.

➤ **Sampling**

It should specify universe, sampling units, sampling size, sampling procedure employed.

➤ **Fieldwork**

It should describe fieldwork activities such as description of the number, type of field workers used, how they were selected, trained and supervised and how their work was verified.

➤ **Analysis and interpretation**

It should include logically unfolding of information. It requires the organization of the data into a logical flow of information for decision making purposes.

❖ ***Limitations***

Every research project has weakness which needs to be communicating in a clear and concise manner. This helps readers to form more accurate interpretations of the result than they would otherwise do.

❖ ***Findings***

Findings are the results of the study. It is an organized narrative of the results. This section makes up the bulk of the report. Summary table and graphics methods of presentation should be used liberally.

❖ ***Conclusions and recommendations***

It must flow logically from the presentations of the findings. Conclusions should clearly link the research findings with the information needs and based on these linkage recommendations for action can be formulated.

❖ **Appendix**

The purpose of the appendix is to provide a place for material which is not absolutely essential to the body of the report. This material is typically more specialized and complex or too detailed than presented in the main report and it is design to serve the needs of the technically oriented readers. The appendix typically contains the following materials: copies of data collection forms; details of sampling plan; tables not included in findings; bibliography.

Presentation of diagram

Diagram refers to charts, graphs or schemes that explain thesis. They are basically pictorial presentation. They facilitate understanding of complex problems. It also facilitates presentation of data that are already collected in time of research objectives. Diagrammatic representation of information has now become a popular way to communicate findings to readers.

Methods of diagrammatic presentation

❖ **Bar chart**

It depicts the magnitude of the data by length of various bars which have been laid with reference to horizontal or vertical scale. They can be bilateral or two way which show both positive and negative characteristics of data.

❖ **Pie chart**

It is a circle divided into sections such that the size of each section corresponding to a portion of the total. It permits quick and easy understandings of relative percentage or division of the whole.

❖ **Line or circle or sector charts**

It depicts change in quantitative data over time. Bar chart shows only the total amount for a time period only whereas line charts shows variations within each time period. A line chart is preferred over a bar chart in the following situations

- When the data involves a long time period
- When several series are compared on the same chart
- When emphasis is on the movement rather than the actual amount
- When trends of frequency distribution are presented.

❖ **Scatter diagram**

It is used to examine the relationship between two variables such as price and scales; incomes and expenses; production and cost; manpower and cost; and so on.

❖ **Time series graphs**

It shows the behavior of some variables overt time.

Construction of tables

The research data can be presented in tabular form. A table is systematic method of presenting statistical data in vertical column and horizontal rows. Tables enable the reader to comprehend and interpret masses of data rapidly and to.....significantly details and relations at a glance. Tabulation involves arrangement of data in the form of tables.

Types of tables

❖ *Simple table:*

It is often called marginal table. It consists of a count of the number of response that occurs in each of the data categories that comprise a variable. It is one dimension or uni-variate table. It makes no difference how many categories any single variable has. Such tables commonly occur in newspapers, government publications etc.

❖ *Two way or bi-variate table:*

It is two dimensional tables with two variables. The variables are interrelated. Table showing the male and female population is an example.

❖ *Three-way table:*

It indicates three mutually related and interlinked attributes of phenomenon. The male category of a population can be classified as poor, middle income and rich. It tells the relation among three variables at a time.

❖ *Multiple tables:*

It gives information about four or more mutually related attributes.

Bibliography:

A bibliography is a list of published works. However, by common use both published and unpublished materials are listed in bibliography. It is added at the end of research report. It is always arranged alphabetically. If the bibliography is extensive, it can be divided into books, periodically, newspaper, reports and public documents.

Rules for preparing bibliography

❖ For a book with one author

Kotler, P (1998). Marketing management: Analysis, planning, implementation and control. New Delhi: PHI

Note:

- Use surname of the author first followed by middle name or two initials. Use the name of institutions or agency if there is no author name.
- Place the parenthesis immediately after the name to enter the year of publication.
- Name the books in italic if computer printed, and use underline if it is typed.
- Give the place of publication and name of publisher.
- In case of two or more works by the same author, the author's name is not to be repeated; a short horizontal line followed by a period should take the place of author's name

- If there are two or more works by one author, arrange them chronologically, most recent last.
- Use double space between the entries. The second line of an entry should be single spaced.
- ❖ For a book with two authors
Kotler, P and Armstrong (2005), Principle of marketing , New Delhi
- ❖ For an edited book
Blois, Keith (Ed.) (2000). The oxford text book of marketing, New York: Oxford University Press Line.
- ❖ For a corporate or institutional author
Nepal Red Cross(1991). Fire representative training manual. Kathmandu: NRC
- ❖ For a newspaper article
The Rising Nepal. April 15, 1997. P3. Col4